

# VALENCE ELECTRONS

Name \_\_\_\_\_

1. Valence electrons are the electrons in the outermost principal energy level. They are always "s" or "s and p" electrons. Since the total number of electrons possible in s and p sublevels is eight, there can be no more than eight valence electrons.

Determine the number of valence electrons in the atoms below.

**Example:** carbon

Electron configuration is  $1s^2$   $2s^2 2p^2$  .

Carbon has 4 valence electrons.

1. fluorine \_\_\_\_\_

11. lithium \_\_\_\_\_

2. phosphorus \_\_\_\_\_

12. zinc \_\_\_\_\_

3. calcium \_\_\_\_\_

13. carbon \_\_\_\_\_

4. nitrogen \_\_\_\_\_

14. iodine \_\_\_\_\_

5. iron \_\_\_\_\_

15. oxygen \_\_\_\_\_

6. argon \_\_\_\_\_

16. barium \_\_\_\_\_

7. potassium \_\_\_\_\_

17. aluminum \_\_\_\_\_

8. helium \_\_\_\_\_

18. hydrogen \_\_\_\_\_

9. magnesium \_\_\_\_\_

19. xenon \_\_\_\_\_

10. sulfur \_\_\_\_\_

20. copper \_\_\_\_\_

# LEWIS DOT DIAGRAMS

Name \_\_\_\_\_

Lewis diagrams are a way to indicate the number of valence electrons around an atom

$\text{Na}\cdot$ ,  $\cdot\ddot{\text{Cl}}\cdot$ ,  $\cdot\ddot{\text{N}}\cdot$   
are all examples of  
this type of diagram.

Draw Lewis dot diagrams of the following atoms.

1. calcium

6. carbon

2. potassium

7. helium

3. argon

8. oxygen

4. aluminum

9. phosphorus

5. bromine

10. hydrogen